

CLAIMS

1. A method of managing a repository containing multiple versions of an object, the method comprising:
 - establishing a plurality of configurations, each configuration containing no
 - 5 more than one version of an object; and
 - associating no more than one configuration with a workspace from which a query can be issued.

2. The method of Claim 1 further comprising, in response to receipt of
 - 10 the query:
 - retrieving an identity of the configuration from the workspace in which the query originates;
 - determining a version of each object to be included in a response to the query, based on the identity of the configuration; and
 - 15 presenting the response including the version of the object determined based on the configuration identity, without exposing any information related to versioning of the object.

3. The method of Claim 1 wherein said configuration is hereinafter
 - 20 "design time configuration", and the plurality of configurations includes at least one additional configuration hereinafter "run time configuration", the method comprising:
 - associating the design time configuration with each of a plurality of persons involved in designing the repository; and
 - 25 associating the run time configuration with each of a plurality of software application programs that use the repository during live operation.

4. A computer-readable storage medium encoded with the repository and with a sequence of instructions to perform the acts of Claim 1.

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5. A signal embodied in a carrier medium, the signal being encoded with a sequence of instructions to perform the acts of Claim 1.

6. A computer comprising:

5 a storage medium comprising a repository containing multiple versions of an object;

means, coupled to the storage medium, for establishing a plurality of configurations, each configuration containing no more than one version of an object; and

10 means, coupled to the establishing means and coupled to the storage medium, for associating only one configuration with a workspace of a person who can issue a query.

7. A method for versioning in a repository of a plurality of objects, the
15 method comprising receiving an instruction to insert a first object, checking if the first object is contained in another object, and if not performing acts (a) and (b) else performing act (c):

(a) inserting into a first table, a first row comprising a plurality of values that define the first object, a unique identifier of the first object, and a version
20 number of the first object; and

(b) inserting into a second table, a second row comprising the unique identifier of the first object, the version number of the first object, and an identifier of a current configuration;

25 wherein acts (a) and (b) are performed in any order relative to one another, and alternatively

(c) inserting into a third table, a third row comprising a plurality of values that define the first object, a unique identifier of the first object, and at least a current version number of a second object which contains the first object, the second object being not contained in any other object.

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8. The method of Claim 7 wherein a third object is located between the first object and the second object, and the first object is indirectly contained in the second object, via the third object.

5 9. The method of Claim 7 wherein the second table comprises a plurality of configurations, each configuration containing no more than one version of the first object.

10 10. The method of Claim 7 further comprising if the first object is contained in the second object, storing in the third row in the third table of act (c) a maximum version number of the second object, the current version number being stored as a minimum version number of the second object.

15 11. The method of Claim 10 further comprising checking if the second object belongs to a configuration that has been deployed and if so:

in a fourth row which contains a most recent version of the first object in the third table to be used in act (c), set the maximum version number to be the current version number of the second object;

20 inserting into the first table, a fifth row for the second object, using a new version number obtained by incrementing the current version number of the second object;

using the new version number when performing act (c); and

inserting in the second table a sixth row containing the new version number of the second object and the identifier of the current configuration.

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12. The method of Claim 7 further comprising receiving another instruction to update the first object, and checking if the first object is contained in any other object.

13. The method of Claim 12 further comprising, if the first object is not contained in any other object:

checking if the first object belongs to a configuration that has been deployed and if not deployed then updating a row in the first table that holds the first object, and if deployed then creating a new version of the first object in the first table.

14. The method of Claim 13 further comprising, if the first object is contained in the second object:

checking if the second object is deployed, and if deployed creating a new version of the second object.

15. The method of Claim 7 further comprising receiving another instruction to delete the first object, and checking if the first object is contained in any other object.

16. The method of Claim 15 further comprising, if the first object is not contained in any other object:

checking if the first object belongs to a configuration that has been deployed and if not deployed then deleting the first row in the first table; and deleting the second row in the second table.

17. The method of Claim 15 further comprising, if the first object is contained in the second object:

checking if the second object is deployed, and if deployed creating a new version of the second object.

18. A computer-readable storage medium encoded with a sequence of instructions to perform the acts of Claim 7.

19. The computer-readable storage medium of Claim 18 further comprising the repository, the repository comprising the third table, the third table comprising a first column for holding a maximum version number of the second object and a second column for holding a minimum version number of the
5 second object, the current version number being stored in the second column.

20. A signal embodied in a carrier medium, the signal being encoded with a sequence of instructions to perform the acts of Claim 7.

10 21. A computer comprising:
a storage medium comprising a repository containing multiple versions of an object;
means, coupled to the storage medium, responsive to an instruction to insert the object, for checking if the object to be inserted is contained in another
15 object and if so generating a second signal else generating a first signal;
means, coupled to the storage medium and to the means for checking, responsive to the first signal, for inserting into a table, a row comprising a plurality of values that define the object, a unique identifier of the object, and a version number of the object and inserting into another table, another row
20 comprising the unique identifier of the object, the version number of the object, and an identifier of a current configuration; and
means, coupled to the storage medium and to the means for checking, responsive to the second signal, for inserting into yet another table, yet another row comprising a plurality of values that define the object, a unique identifier of
25 the object, and at least a current version number of said another object in which the object is contained.